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10/737,362	12/16/2003	Brian Andrew Carr	MCG00333	6018
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/737,362

Applicant(s)

CARR, BRIAN ANDREW

Examiner

JUTAI KAO

Art Unit

2416

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Response to Amendment

Amendments filed on 12/23/2008 have been entered into prosecution in this office action. Amendment made to claim 14, "a function unit that performs a signal processing function that is not associated with switching Ethernet packets" changes the scope of the original claim. Therefore, a new ground of rejection is applied to that claim.

Response to Arguments

1. Applicant's arguments filed 12/23/2008 have been fully considered but they are not persuasive.

Regarding claim 10, the applicant argues that Prior Art 1 only shows a single connector in the fabric slot being in communication with connector of a single node slot as opposed to two separate node slots as required by the claim. However, as shown by Fig. 6 of Prior Art 1 the entire a or b slots within the aggregation fabric slot should be considered as a single "third Ethernet connector". That is, for example, fabric slot a, which includes 4 connection ports is considered as a single "third Ethernet connector" having 4 connection ports capable of communicating with node slots 1-4.

2. Applicant's arguments with respect to claims 14-23 have been considered but are moot in view of the new ground(s) of rejection.

Regarding rejections of claim 14-23, the amendments have changed the scopes of the original claims, therefore, new grounds of rejections are placed for these claims.

Regarding the arguments made for the 35 USC 112 first paragraph rejections of the claim, the cited passage, "said aggregation card is in fact a node card...capable of performing technical function in addition to Ethernet packet routing" has been considered. However, merely stating that a "technical function" exists still does not show the required feature of "a function unit that performs a signal processing function that is not associated with switching Ethernet packets". First, a technical function does not necessarily perform any "signal processing". Secondly, the "technical function" may or may not be "associated with switching Ethernet packet". The cited passage at best appears to show a function that is not the actual function of switching the Ethernet packet exists on the aggregation card. However, the specification does not explicitly show any function that is not associated with the switching of Ethernet packet.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 14-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 14 recites an aggregation card including "a function unit that performs a signal processing function that is not associated with switching Ethernet packets".

However, the specification does not show any signal processing function performed by the aggregation cards besides the switching of Ethernet packets and some undefined technical functions.

5. Claims 14-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 14 recites an aggregation card including "a function unit that performs a signal processing function that is not associated with switching Ethernet packets".

However, the specification does not show any signal processing function performed by the aggregation cards besides the switching of Ethernet packets and some undefined technical functions.

6. Claims 24-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 24 recites an aggregation card including "a source node card, a destination node card". However, the specification does not show any source or destination node cards. The specification only shows the connection of node cards to the aggregation cards.

7. Claims 24-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 24 recites an aggregation card including "a source node card, a destination node card". However, the specification does not show any source or destination node cards. The specification only shows the connection of node cards to the aggregation cards.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 10, 12-20 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over PICMG 2.16 Revision 1.0, titled "Packet Switching Backplane Short

Form Specification" (Here on referenced as Prior art 1) in view of Schwartz (US 6,947,410).

Prior art 1 discloses a short version of the PICMG 2.16 specification including the following features.

Regarding claim 10, a packet switched backplane (see "Packet Switching Backplane" recited in page 3, section "Packet Switching Backplane Overview) comprising a backplane that supports the PICMG 2.16 standard (see title: "PICMG 2.16 Revision 1.0 Packet Switching Backplane") including a first node slot having a first connector that complies with PICMG 2.16 standard (see Node slot 1 with node boards having connection ports a and b in Fig. 6), a second node slot having a second connector that complies with PICMG 2.16 standard (see Node slot 2 with node boards having connection ports a and b in Fig. 6); and a first aggregation slot having a third connector that complies with PICMG 2.16 standard (see Fabric Slot a with fabric boards having connection ports 1-4 in Fig. 6); a first dedicated link establishing a direct connection between the first and third connectors (see link between node slot 1 port a and fabric slot a port 1 in Fig. 6); and a second dedicated link establishing a direct connection between the second and the third connectors (see link between node slot 2 port a and fabric slot a port 2 in Fig. 6), wherein third connector allows a switch to turn on and off a communication between the first connector and the second connector (see "Fabric Boards in Fabric Slots switch packets between multiple Node Slots" recited in the Fabric Slot Overview section on page 5) and via the first and second dedicated links

(see Fabric Slots and Node Slots are connected via the first and second dedicated links as shown in Fig. 6).

Regarding claim 12, a second aggregation slot (see Fabric slot b in Fig. 6) having a fourth connector that complies with the PICMG 2.16 standard (see link between node slot 2 port b and fabric slot a port 2 in Fig. 6); and a third dedicated link establishing a direct connection between the first and fourth Ethernet connectors (see link between node slot 1 port b and fabric slot b port 1 in Fig. 6); and a fourth dedicated link establishing a direct connection between the second and fourth Ethernet connectors (see link between node slot 2 port b and fabric slot b port 1 in Fig. 6), wherein the fourth connector allows a switch to turn on and off a communication between the first connector and the second connector (see "Fabric Boards in Fabric Slots switch packets between multiple Node Slots" recited in the Fabric Slot Overview section on page 5) and via the third and fourth dedicated links (see Fabric Slots and Node Slots are connected via the third and fourth dedicated links as shown in Fig. 6).

Regarding claim 13, the backplane further comprises a fabric slot that comply with PICMG 2.16 standard (see Fabric slots a and b in Fig. 6).

Regarding claim 14, a data processing system comprising a packet switched backplane (see "Packet Switching Backplane" recited in page 3, section "Packet Switching Backplane Overview and system shown in Fig. 6) having a backplane that supports the PICMG 2.16 standard (see title: "PICMG 2.16 Revision 1.0 Packet Switching Backplane") including a first node slot having a first connector that complies with PICMG 2.16 standard (see Node slot 1 with node boards having connection ports a

and b in Fig. 6), a second node slot having a second connector that complies with PICMG 2.16 standard (see Node slot 2 with node boards having connection ports a and b in Fig. 6); and a first aggregation slot having a third connector that complies with PICMG 2.16 standard (see Fabric Slot a with fabric boards having connection ports 1-4 in Fig. 6); a first dedicated link establishing a direct connection between the first and third connectors (see link between node slot 1 port a and fabric slot a port 1 in Fig. 6); and a second dedicated link establishing a direct connection between the second and the third connectors (see link between node slot 2 port a and fabric slot a port 2 in Fig. 6); and a first aggregation card that is pluggable into the first aggregation slot (see Fabric boards plug into fabric slots block in Fig. 6) including an Ethernet bridging unit that switches Ethernet packet, wherein the third Ethernet connector allows the Ethernet bridging unit to turn on and off a communication between the first connector and the second Ethernet connector (see "Fabric Boards in Fabric Slots switch packets between multiple Node Slots" recited in the Fabric Slot Overview section on page 5) and via the third and fourth dedicated links (see Fabric Slots and Node Slots are connected via the third and fourth dedicated links as shown in Fig. 6).

Regarding claim 15, the system further comprises a first node card that complies with the PICMG 2.16 standard and is pluggable into the first node slot (see Node boards 1 plug into node slot 1 as shown in Fig. 6).

Regarding claim 16, the system further comprises a first node card that complies with the PICMG 2.16 standard and is pluggable into the second node slot (see Node boards 2 plug into node slot 2 as shown in Fig. 6).

Regarding claim 17, the system further comprises at least one second aggregation slot each having a fourth connector that complies with the PICMG 2.16 standard (see Fabric board b plugged into fabric slot b as shown in Fig. 6).

Regarding claim 18, the system further comprises at least one second aggregation card that each is pluggable into one of the at least one second aggregation slot (see fabric board b plug into fabric slot b shown in Fig. 6) and each includes an Ethernet (rejection to parent claim using Schwartz shows the use of the Ethernet protocol) bridging unit that switches Ethernet packets and is for communicating with one of the fourth Ethernet connectors (see "Fabric Boards in Fabric Slots switch packets between multiple Node Slots" recited in the Fabric Slot Overview section on page 5).

Regarding claim 19, the system further comprises a plurality of node cards (see node cards 3 and 4 connected to node slots 3 and 4 in Fig. 6), wherein each of the plurality of node cards is in communication with two cards from a group of cards that include the first aggregation card and the at least one second aggregation card (see Fig. 6, each of cards 3 and 4 are connected to fabric cards a and b).

Regarding claim 20, the system further comprises a plurality of node cards, wherein each card from a group of cards that include the first aggregation card and the at least one second aggregation card is in communication with two of the plurality of node cards (see Fig. 6, each of cards 3 and 4 are connected to fabric cards a and b).

Regarding claim 24, a data processing system comprising a packet switched backplane (see "Packet Switching Backplane" recited in page 3, section "Packet Switching Backplane Overview and system shown in Fig. 6) having a backplane that

supports the PICMG 2.16 standard (see title: "PICMG 2.16 Revision 1.0 Packet Switching Backplane") including a first node slot having a first connector that complies with PICMG 2.16 standard (see Node slot 1 with node boards having connection ports a and b in Fig. 6), a second node slot having a second connector that complies with PICMG 2.16 standard (see Node slot 2 with node boards having connection ports a and b in Fig. 6); and a first aggregation slot having a third connector that complies with PICMG 2.16 standard (see Fabric Slot a with fabric boards having connection ports 1-4 in Fig. 6); wherein the first aggregation slot is capable of selectively receiving one from a source node card, a destination node card (see node slots 1 and 2 which are connected to source and destination node cards 1 and 2 in Fig. 6), and an aggregation card (see Fabric boards plug into fabric slots block in Fig. 6); a first dedicated link establishing a direct connection between the first and third connectors (see link between node slot 1 port a and fabric slot a port 1 in Fig. 6); and a second dedicated link establishing a direct connection between the second and the third connectors (see link between node slot 2 port a and fabric slot a port 2 in Fig. 6); and a first aggregation card that is pluggable into the first aggregation slot (see Fabric boards plug into fabric slots block in Fig. 6) including an Ethernet bridging unit that switches Ethernet packet, wherein the third Ethernet connector allows the Ethernet bridging unit to turn on and off a communication between the first connector and the second Ethernet connector (see "Fabric Boards in Fabric Slots switch packets between multiple Node Slots" recited in the Fabric Slot Overview section on page 5) and via the third and fourth dedicated links

(see Fabric Slots and Node Slots are connected via the third and fourth dedicated links as shown in Fig. 6).

Prior art 1 does not disclose the following features: regarding claim 10 and 12, wherein the connectors are Ethernet connectors for transferring and receiving Ethernet packets; regarding claim 14, wherein the connectors are Ethernet connectors for transferring and receiving Ethernet packets; and wherein the aggregation card includes a function unit that performs a signal processing function that is not switching Ethernet packets; regarding claim 17, wherein the connectors are Ethernet connectors for transferring and receiving Ethernet packets for transferring and receiving Ethernet packets; regarding claim 18, wherein the aggregation card includes a function unit that performs a signal processing function that is not switching Ethernet packets; regarding claim 22, wherein the first aggregation card further comprises an external Ethernet connector connecting to an external address; regarding claim 23, wherein the Ethernet bridging unit is an Ethernet switch; regarding claim 24, wherein the first, second node slot and the first aggregation slot includes a Ethernet connector for transferring and receiving Ethernet packets.

Schwartz discloses a system for communicating data packets using a backplane switch including the following features.

Regarding claim 10 and 12, wherein the connectors are Ethernet connectors for transferring and receiving Ethernet packets (see "Using an Ethernet protocol, backplane cards 16 communicate and receive data packets called frames" recited in column 4, lines 63-65; wherein the backplane cards are node cards connected to the node slots

and communicates with the backplane switch 12, or the fabric card connected to the fabric slot).

Regarding claim 14, wherein the connectors are Ethernet connectors for transferring and receiving Ethernet packets (see "Using an Ethernet protocol, backplane cards 16 communicate and receive data packets called frames" recited in column 4, lines 63-65; wherein the backplane cards are node cards connected to the node slots and communicates with the backplane switch 12, or the fabric card connected to the fabric slot); and wherein the aggregation card includes a function unit that performs a signal processing function that is not switching Ethernet packets (see "Back plane cards 16 may include phone service cards that support advanced features, such as telephone conferencing...and decodes the data streams into a linearized format for mixing..." as recited in column 8, lines 25-39).

Regarding claim 17, wherein the connectors are Ethernet connectors for transferring and receiving Ethernet packets for transferring and receiving Ethernet packets (see "Using an Ethernet protocol, backplane cards 16 communicate and receive data packets called frames" recited in column 4, lines 63-65; wherein the backplane cards are node cards connected to the node slots and communicates with the backplane switch 12, or the fabric card connected to the fabric slot).

Regarding claim 18, wherein the aggregation card includes a function unit that performs a signal processing function that is not switching Ethernet packets (see "backplane switch 12 and backplane cards 16 examine the priority bits in a received data packet, identify a quality of service level associated with the priority bits, and

process the received data packet according to the identified quality of service level" recited in column 8, lines 58-67).

Regarding claim 22, wherein the first aggregation card further comprises an external Ethernet connector connecting to an external address (see Fig. 1 external connection port 42 and external address 22a and 22b).

Regarding claim 23, wherein the Ethernet bridging unit is an Ethernet switch (see backplane switch 12 shown in Fig. 1, which communicates using Ethernet; see claim 2 "backplane switch communicates...according to an Ethernet protocol").

Regarding claim 24, wherein the first, second node slot and the first aggregation slot includes a Ethernet connector for transferring and receiving Ethernet packets (see "Using an Ethernet protocol, backplane cards 16 communicate and receive data packets called frames" recited in column 4, lines 63-65; wherein the backplane cards are node cards connected to the node slots and communicates with the backplane switch 12, or the fabric card connected to the fabric slot).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Prior art 1 by using the features, as taught by Schwartz, in order to provide compatibility to the commonly-used Ethernet-based systems.

10. Claim 11 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prior art 1 in view of Schwartz as applied to claim 10 and 14 above, and further in view of Dove (US 2005/0036506).

Prior art 1 and Schwartz disclose the claimed limitations as shown above.

Prior art 1 and Schwartz do not disclose the following features: regarding claim 11, 21 and 25, wherein Ethernet transmit pins of the first and second Ethernet connectors are connected to Ethernet receive pins of the third Ethernet connector, and Ethernet receive pins of the first and second Ethernet connectors are connected to Ethernet transmit pins of the third Ethernet connector.

Dove discloses a method for automatically switching media connections when operating in forced speed and duplex mode including the following features.

Regarding claim 11, 21 and 25, wherein Ethernet (see "Ethernet" recited in paragraph 45 on page 5) transmit pins (see transmit pins 3 and 6 and connection 22 in Fig. 2) of said at least one node slots (see rejection to claim 10 using Prior art 1) the first and second Ethernet connectors are connected to Ethernet receive pins of the third Ethernet connector (see receive pins 1 and 2 and connection 22 in Fig. 2) of said at least one aggregation slot (see rejection to claim 10 using Prior art 1) and Ethernet (see "Ethernet" recited in paragraph 45 on page 5) receive pins (see receive pins 1 and 2 and connection 24 in Fig. 2) the first and second Ethernet connectors (see rejection to claim 10 using Prior art 1) are connected to Ethernet transmit pins (see transmit pins 3 and 6 and connection 24 in Fig. 2) of the third Ethernet connector (see rejection to claim 10 using Prior art 1).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Prior art 1 and Schwartz by using the features, as taught by Dove, in order to connect the node/aggregation cards to the card slots.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUTAI KAO whose telephone number is (571)272-9719. The examiner can normally be reached on Monday ~Friday 7:30 AM ~5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on (571)272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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